

Amendments to the Specification:

Please replace paragraph [0035] with the following amended paragraph:

[0035] The illustration of Figure 8A assumes that it is desired that all the pixels A F of the exemplary graphics object find their way into the picture, and thus all the pixels A F contribute to the combined chrominance value 800. However, in the case where a particular pixel of the graphics object is not meant to replace a pixel in the picture, the calculation of the combined chrominance value 800 preferably does not include a contribution from that pixel. Figure 8B illustrates a situation where the pixel values B, E and F are not meant to replace the corresponding pixels in the picture (indicated by a "0" proximate to the pixel). In this case, the combined chrominance value 800 is comprised only of contributions from pixels A, C and D. Equation 1 below illustrates the calculation of the chrominance value in this exemplary case.

$$CHO = (1 \cdot 1/8 \cdot A) + (0 \cdot 1/4 \cdot B) + (1 \cdot 1/8 \cdot C) + (1 \cdot 1/8 \cdot D) + (0 \cdot 1/4 \cdot E) + (1 \cdot 1/8 \cdot F) \quad (1)$$

Where $GCHO - CHO$ is the down-sampled chrominance value (800) placed in the compressed graphics object.

Please replace paragraph [0042] with the following amended paragraph:

[0042] As discussed with respect to blocks 702 and 704 of Figure 7, embodiments of the invention may convert an uncompressed graphics object (e.g., a graphics object in a 4:4:4 space) to a compressed graphics object (e.g., a 4:2:2 or 4:2:0 space) prior to overlaying. However, while Figure 7 shows these steps as integral with the remaining steps in the overlay process, converting the uncompressed graphics object to a compressed graphics object and calculation and insertion of the weight factor, may take place well before the overlay procedure. Moreover, the weight factor may be included within the compressed graphics object file (either as separate data values, or within the least significant bits of the chrominance value). In alternative embodiments, the compressed graphics object may not specifically contain the weight factor for each chrominance value, and in these embodiments the weight factor may be calculated contemporaneously with the combining of the chrominance values (block 716 of Figure 7).

Please replace paragraph [0043] with the following amended paragraph:

[0043] Various embodiments of the invention also lend themselves well to alpha blending of the graphics object with the digital picture. In particular, and especially in relation to applying a graphics object to a series of pictures forming video, it may be desirable to have the graphics object fade in or fade out of the picture. Alpha blending may be accomplished by application of an alpha (α) value where $0 < \alpha < 1$ to be applied to both the luminance and the chrominance values. In some embodiments, the application of the alpha value may be done in a pre-processing method when the graphics overlay is converted from an uncompressed space to a compressed space. As for the luminance values, the luminance values in the compressed graphics object may be defined by Equation 6 below:

$$LC_k = \alpha \cdot LNC_k \quad (6)$$

where LC_k represents a compressed luminance value, LNC_k is a non-compressed luminance value, α is the alpha value, and $k = 1 \dots m$ being the number of luminance values in the sample or graphics object. Further, with respect to the weight factor for each chrominance value, Equation 7 below defines the relationship.

$$W(\alpha)_k = \alpha \cdot W_k \quad (7)$$

where $W(\alpha)$ is the weight factor as a function of the alpha value, and W is the weight factor for each chrominance value without regard to the alpha value. Thus, in alpha value pre-processing, the alpha value is used during transformation of the non-compressed graphics object to the compressed graphics object. Overlaying of the compressed graphics object onto the compressed digital picture may take place as described above.